Facilities Quarterly

LAWRENCE BERKELEY NATIONAL LABORATORY FACILITIES DEPARTMENT NEWSLETTER

OCTOBER
1995

CONTROLLED BURN CLEARS BROOM

The first phase in an extended effort to rid LBNL of French broom was concluded successfully on August 22 with a controlled burn of the slope above Building 46. The burn, conducted by the LBNL Fire Department, consumed broom that had been cut by the California Conservation Corps and allowed to dry for several weeks.

LBNL firefighters tend the controlled burn above Bldg. 46.

According to Dayna Powell of Grounds, who has responsibility for coordinating the broom eradication effort, controlled burns are the best way to remove large amounts of unwanted vegetation like the aggressive, highly flammable broom. "Fire is an efficient and economical means of ridding an area of extreme concentrations of vegetation," says Powell. "This way, the vegetation didn't have to be hauled away and processed at another site, and burning returns valuable nutrients to the soil."

French broom seeds can lie dormant in the soil for up to 80 years. Burning destroys seeds in the upper layers of soil, reducing the number of seeds that will germinate in the next growing season. Fire also induces germination of remaining seeds.

Seeds activated by the recent burn should produce a new broom crop next spring. The area will then be mowed before the young plants can go to seed. This fall, contractors will hydroseed sterile barley over the burn area as fuel for another burn next summer that will further sterilize the soil.

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WHITE PAPER RECYCLING GOES LABWIDE

Every year LBNL spends about $100,000 on ordinary trash collection. Starting this month, though, a new white paper recycling program figures to cut the Lab's trash volume and its bill by up to 75%. For the past two months, employees in the Building 90 area have participated in a pilot recycling project. They are by now familiar with the routine, soon to be implemented Labwide, of transferring their recyclable white paper from their "personal" small cardboard collection boxes to centrally located 30-gallon plastic bins. Custodians empty the bins into recycling dumpsters, which are, in turn, emptied by the recycler.

The Lab pays nothing for the containers, dumpsters, and pickup, which are all provided by the recycler in return for the paper. Moreover, LBNL no longer has to pay for removal of huge quantities of paper.

Because virtually all LBNL's buildings have sprinkler systems, most office areas will be allowed under the fire code to use the cardboard and plastic receptacles. Project planners, under Custodial section chief Bob Berninzoni, are locating the plastic collection bins well clear of building exit pathways. However, laboratories and machine shops can't participate, because the low cost of the cardboard and plastic containers is key to the system's economics, and they would require lidded metal containers.

White paper can be recycled economically using a process that consists of chemically removing ink

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INSIDE

CONTROLLED BURN

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The French broom has so successfully colonized the burn area that native species have all but disappeared, although their seeds lie dormant in the soil. The burn will induce germination of these native seeds, which, aided by the nutrients added to the soil by the burn, should sprout next spring. Over the next few years, native species will be allowed to regain control of the area.

Unfortunately, in many areas around the Lab burning isn't feasible. If slopes aren't too steep to allow fire fighters safe access, trees and structures are often too close for comfort. In many such cases, Conservation Corps members have cut the broom and spread it on the ground as a mulch layer to help prevent broom seed from germinating. On about 20 acres where erosion is a problem, Grounds will install jute netting and hydroseed the area with perennial native grasses and wild flowers. The seed and mulching agents in the hydroseed mix form a coating on the soil that inhibits pest species and protects the desired ones. On flatter land that has good exposure to the sun, Grounds will lay down clear plastic sheets to bake, or solarize, the seed bank.

Powell expects the process of eradicating the French broom and reestablishing native species to take five years. In the meantime, Grounds' persistent efforts to quell the pest will mean vistas uncluttered with broom, but alive, in springtime, with the colors of native wildflowers.

FROM THE FACILITIES MANAGER...

Congratulations to winners of the second increment of the Outstanding Performance Awards for FY 1995. The awardees are Elpidio Reyes, Adel Flores, Dick Baker, Louis Chan, Carol Moll, Lisa Sloan, and Danica Truchlikova. These individuals did something extra to make LBNL better.

I would also like to express my appreciation to everyone who worked so hard to make end-of-the-year deadlines. The last quarter is always critical, what with finishing up work, publishing the year end reports, and preparing for the next year. This year was especially stressful due to the reduction in force, which eliminated forty-five positions in the department. I am very proud to say that everyone performed professionally and pulled together with real teamwork.

This year will be more challenging than last year. Budgets will be tighter and none of the work will go away. We must ask ourselves how we can do our jobs better. With the reduction in resources, it will not be enough to just work faster or longer; we must do away with nonproductive habits and outmoded practices. The question is not whether we are getting the work done, but whether we are doing the right work.

The department has reorganized to obtain a better fit of the various components, as shown on the organization chart on page 6. This has separated some groups which have reported to a common supervisor in the past. It is important to look beyond our immediate units so that we operate as one department. Even more than in the past, we will rely on sharing resources in order to address the Laboratory's priorities.

Thank you for a successful year.

Bob Camper

RECYCLING

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and print from the paper, "ironing" the paper, and finally retrimming it. Colored paper undergoes a different process and is reincarnated as brown paper. Although profit margins on recycled brown paper are tight, Berninzoni expects to begin recycling it early next year, along with items such as file folders, newspapers, bags, and books. Berninzoni is also looking at recycling cafeteria waste, plastics, and machine shop waste.

Custodial staff will be placing a notification tag on waste baskets as a friendly reminder that you have disposed of something improperly, whether it is recyclable paper, food items, or hazardous waste. Custodians will not empty these waste baskets until the non-compliant materials have been removed.

Labwide recycling of white paper will be phased in over an eight-week period, starting in mid-October. Instructions, posters and pamphlets publicizing and explaining the system are now being prepared. For further information on LBNL's recycling program, contact Bob Berninzoni at extension 5576.

FACILITIES DEPARTMENT

Facilities provides LBNL with a full range of architect and engineering, construction, and maintenance services for new facilities and modification and support of existing facilities.

Architect and engineering services include planning, programming, design, engineering, project management, and construction management for new facilities and modifications to existing facilities. Maintenance and construction functions include custodial, gardening, and lighting services; operation, service, and repairs or replacements to equipment and utility systems; and construction of modifications, alterations, and additions to buildings, equipment, facilities, and utilities. Additional services include bus and fleet management, and the logistics functions of stores distribution and property disposal.

Ongoing Facilities activities include renewal and upgrade of site utility systems and building equipment; preparation of environmental planning studies; in-house energy management, space planning; and assurance of Laboratory compliance with appropriate facilities-related regulations and with University and DOE policies and procedures.

The Work Request Center expedites facility related work requests, answers questions, and provides support for facilities-related needs.

FOCUS ON SERVICE: TRANSPORTATION SERVICES

Transportation handles daily package and mail delivery to all LBNL locations. In addition, with its fleet of vans, trucks, tractor trailer rigs, gas cylinder delivery trucks and liquid nitrogen tankers, it provides LBNL with the equivalent of a small trucking company.

Regular services include delivery to DOE/Oakland on Mondays, Wednesdays, and Fridays; and to LLNL on Wednesdays; pickups twice daily at Receiving in Emeryville; gas cylinder delivery to Campus locations every Monday and Hill locations on Wednesdays and Fridays; liquid nitrogen delivery; and weekly pickup to the used furniture pool. Forklift service is also available for loads up to 18,000 lb (8,200 kg).

Transportation of materials is an overhead function, and normal services are not charged to the user. Special services are available on a recharge basis for such things as office and laboratory moves, and offsite pickups and transports.

To request service call the Work Request Center or extension 5404. Please have the following information ready:

- Contact's location and extension
- Size, weight, and description of materials
- Location of pickup
- Location of delivery
- Has it been monitored for radioactivity? (consult PUB-3000)
- Special circumstances
- When to pick up material.

COMPLIMENTS

- Rita Cummings of EH&S wanted a stand-up work station to help prevent recurrence of a repetitive strain injury. Planner Martin Dooly and Carpenter Mike Miller responded with an original creation that Cummings calls "fantastic." EH&S see it as a possible prototype for such work stations.
- The Building 79 Metals Storeroom was slated for a Monday DOE walkthrough, so supervisor Jim Johnston asked custodian Materna Cabanilla to sweep the floors the Friday before. On Monday Johnston found that "Materna had not only swept, but had also mopped all the floors. The DOE inspection groups all commented on the facility's cleanliness."
- Oliver Wiggins and his rigging crew—Kevin Trigales, Frank Asturias, Ron Silva, and Gilbert Goo—had six weeks to load 2,300 tons of Bevalac shielding blocks for shipment to Brookhaven. They finished in just three weeks. AFRD's Bob Stevenson notes that "the time and money saved will be used to stage and prepare blocks for the FY96 shipments."

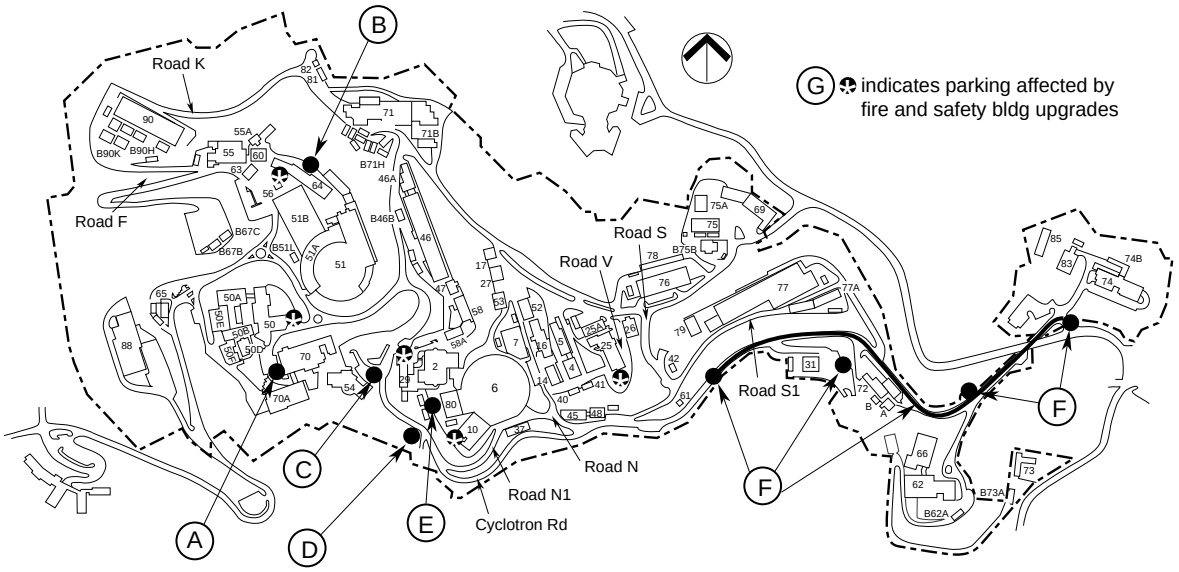
WORK REQUEST CENTER

Telephone	6274
Fax	6272
Quickmail	Facility
E- or VAX-Mail	Facilities@lbl.gov
Mailstop	76-222

WRC welcomes questions or comments about the Facilities Quarterly.

CONSTRUCTION AND YOU

current construction projects affecting parking or vehicular or pedestrian circulation



Project Contacts. The name in parentheses after each project is the Project Manager (PM) or other person who is responsible for project oversight: coordinating all phases from design through construction; controlling cost, scope and schedule; and ensuring client satisfaction. This person will be happy to answer any questions about the project.

Bldg 70 Hazardous Materials Upgrades

(A)

OCT	NOV	DEC

Construction continues in Bldg 70. Ten spaces by Bldg 70 are reserved for a jobsite trailer and material storage. (Richard Stanton, x6221)

Bldg 64 Renovation

(B)

OCT	NOV	DEC

Construction continues. Parking spaces adjacent to the building will be reserved for construction operations. (John Musante, x5769)

Bldg 54 Cafeteria Addition

(C)

OCT	NOV	DEC

Construction continues. Six parking spaces on the road to the left of the bus entrance to the Cafeteria parking lot are being used by the contractor. (Nathan Hong, x6088)

Bldg 29 Parking Area

(D)

OCT	NOV	DEC

Site work continues. About 12 parking spaces between the Big C Substation and the Cafeteria are used for construction, and truck traffic from Bldg 74 vicinity to the fill area may slow traffic at times. (John Pickrell, x6710)

Bldg 6/80 ALS Structural Biology Support

OCT	NOV	DEC

(E)

Construction continues. The 20 parking spaces on the west side of Bldg 80 will be used by the contractor as a laydown area for the duration of the project. (Joe Harkins, x7486)

East Canyon Electrical Safety

OCT	NOV	DEC

(F)

Construction continues. Portions of the road between Strawberry Gate and Bldg 48 will be closed, significantly disrupting traffic and parking. Traffic will be rerouted to affected buildings through Grizzly Gate. Strawberry Gate will remain open, although truck access will be limited at times. (John Pickrell, x6710)

Fire & Safety Upgrades

OCT	NOV	DEC

(G)

Construction continues in Bldgs 4, 5, 10, 16, 25, 29, 46, 50, and 64. Upgrades in Bldgs 55, 66, 88 and 90 will begin in October. Parking spaces adjacent to the buildings will be reserved for construction operations. (Richard Stanton, x6221)

ON THE DRAWING BOARD

projects in study or conceptual design

Electron Beam Micro-Characterization Facility

This new 900 m^2 multi-story building at the Bldg 72 complex will provide state-of-the-art instrumentation, including a 400kV microscope lab and a Z-contrast STEM lab, 10 support labs, an 80-seat auditorium, and office space for users of the National Center for Electron Microscopy. The facility will support basic research on advanced techniques for materials characterization at high spatial resolution and provide support labs for preparation of samples for examination by advanced electron optical techniques. (Kirk Haley, x5973)

ALS Beamlines Initiative

This project will provide a second complement of experimental facilities for the ALS, including insertion devices, beamlines, and 1,876 gsm of finished light laboratory and office space for ALS users. Located on the second floor of ALS, these new facilities will support research in materials and surface science, chemical dynamics, and structural biology. (Joe Harkins, x7486)

IN PROGRESS

funded projects

Bldg 2 Nanofabrication Facility

Construction is in progress in the NW quadrant of the first floor of Bldg 2. This work will relocate existing office space within Bldg 2 and prepare the nanowriter area for the installation of the environmental chamber and nanowriter. The nanowriter is scheduled to be installed in November 1995, once construction is completed. The laboratory will support research by the LBNL Center for X-Ray Optics. (Kirk Haley, x5973)

Elise

Now in pre-design, this new heavy-ion linear induction accelerator will be about 25 m long. The induction cells will contain about 41 metric tons of magnetic material and will have an alignment system; high vacuum system; diagnostic, data acquisition and control system; and special maintenance equipment. (John Pickrell, x6710)

Sanitary Sewer Upgrade

Now in pre-design, this project will replace about 1,066 m of underground sanitary sewer lines. The system is over 50 years old, and degeneration has resulted from the past practice of discharging corrosive substances and from unstable geological conditions. Sewer breaks, offsets, obstructions, and undulations caused by ground movement and settling have resulted in excessive maintenance, sewer line cleaning problems, and possible soil contamination. (Kirk Haley, x5973)

ALS Structural Biology Support Services

Construction has started with demolition and abatement. This project includes a build-out of the Bldg 80 high bay area into a complete second floor and installation of about 900 m^2 of lab and office space in this area and the adjacent second floor of the ALS. Completion is expected mid 1996. (Joe Harkins, x7486)

Bldg 84 Human Genome Laboratory

Mass excavation and construction of a large retaining wall continues. The Human Genome Lab will be a 3,800 m^2, 3-story, state-of-the-art molecular genetics research facility. The building will be adjacent to existing Bldgs 74 and 83. Site work will be completed in late 1995, project completion will be in late 1997. (Nathan Hong, x6088)

Energy Conservation Upgrades

Expansion of LBL's Energy Monitoring and Control System (EMCS) continues. This includes central monitoring and control of space-conditioning systems, including boilers, hot water pumps, air-handlers, and cooling towers. (Chuck Taberski, x-6076)

Bldg 29 Parking Area

Sitework is in progress for the Bldg 29 parking area, which will provide about 42 parking spaces in the heavily populated central Lab area. This will also allow Cyclotron Rd near Bldg 29 to revert to two-way traffic from the current single lane. The project includes site preparation, engineered fill placement, drainage, paving, lighting, guardrails, hydroseeding, fence relocation, and striping. (John Pickrell, x6710)

Bldg 85 Hazardous Waste Handling Facility

Structural Steel work was completed in mid July. Please stay out of construction area; these activities can be extremely hazardous to unwary casual observers. (Joe Harkins, x7486)

Bldg 54 Cafeteria Addition

Construction is in progress for this 200 m^2 addition. this will provide conference / dining space with convenient catering and will serve as dining overflow for the cafeteria. Completion is expected in early 1996. (Nathan Hong, x6088)

IHEM PROGRAMS WIN ENERGY EFFICIENCY AWARDS

In these budget-conscious times, it is increasingly important to make LBNL as efficient as possible. The In-House Energy Management group (IHEM) has been doing just that. Between 1985 and 1995, IHEM programs reduced LBNL building energy consumption per square foot by 37%. This outperforms the DOE target of 10% for the same period, not to mention the goals of 20% by the year 2000 and 30% by 2005.

IHEM's activities include energy controls engineering for all construction projects, enforcing state and federal energy efficiency requirements, retrofit studies and project management utilities, use analysis and recharge, and enhancing employee awareness.

The retrofits program alone saves $930,000 per year in users' energy bills, and IHEM's programs reduce power plant emissions by 4700 tons of CO_2, 5200 tons of SO_2, and 7000 tons of NOx annually. Another dividend has been recognition for LBNL in the form of federal and DOE energy awards. This year, IHEM collected four awards from DOE and the Federal Energy Management Program (FEMP), for a total of 23 in recent years.

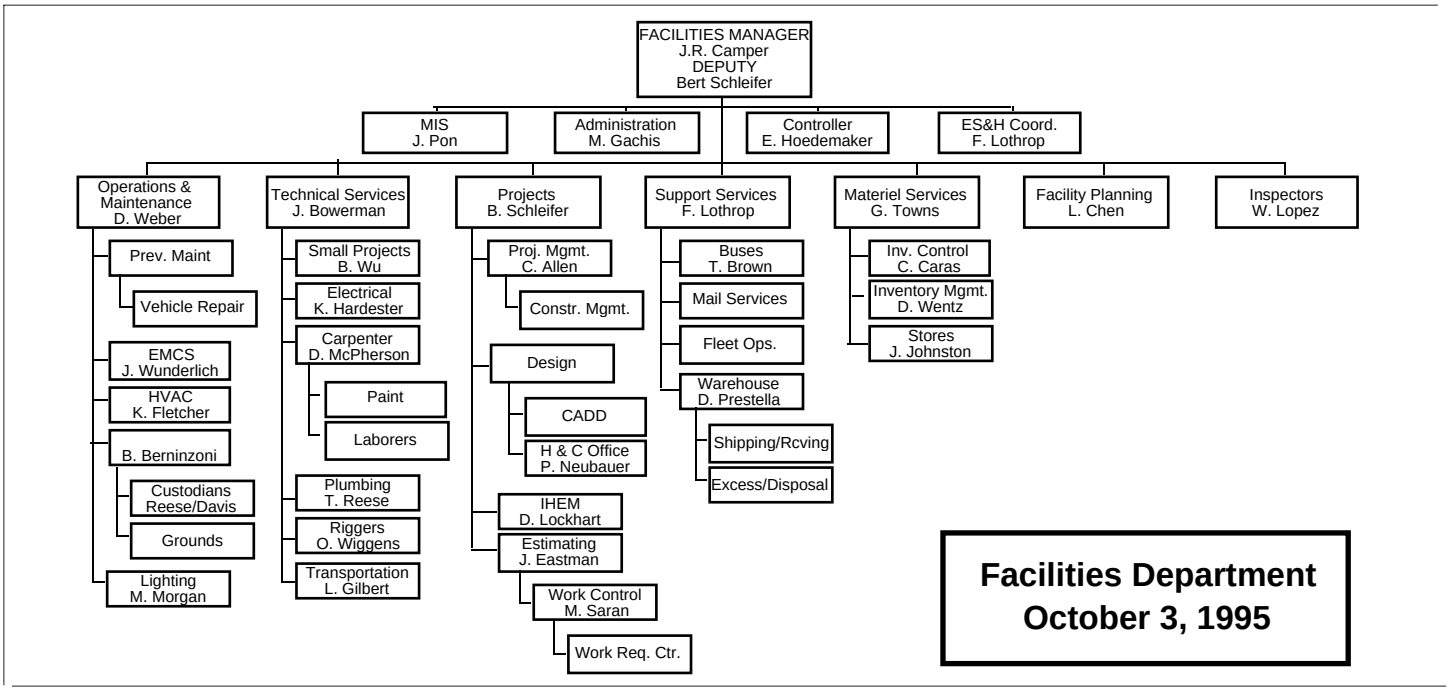
This year's FEMP Small Group Award was presented to Dale Sartor, Doug Lockhart, Chuck Taberski, and Michael Rhea for their work on the Building 65 Lighting and Plant Systems Upgrade. This project pioneered an innovative contract that gives the subcontractor a yearly share of the resulting energy savings in return for financing the retrofit. This type of contract has become a model for energy efficiency upgrades at federal facilities.

The DOE IHEM Small Group Award for Lighting went to Steve Greenberg, Steve Kromer, Oliver Morse, Tai Voong, Mack Morgan, and Michael Siminovitch for the Buildings 70 and 90 Lighting Retrofit**.** Lighting retrofits return big dividends in energy conservation, constituting fully a third of the savings from retrofits. This project is expected to result in annual savings of 1,387,000 kWh, valued at $111,000.

Lead electrician Jon Gibson received the FEMP Individual Award for his work on LBNL's nationally acclaimed Energy Monitoring and Control System (EMCS). Gibson has supported a dozen EMCS projects.

Finally, the DOE IHEM Individual Award went to IHEM section chief Doug Lockhart for his direction of IHEM's wide-ranging activities.

As we start a new fiscal year, IHEM is as busy as ever. Expansion of the EMCS will continue into FY 1997, and a dozen IHEM retrofit projects are scheduled. This is good news for LBNL's scientific programs, whose energy bills will decrease as their facilities receive retrofits.



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